

## Scientific Note

**THE OCCURRENCE OF *LAMPROPTERYX SUFFUMATA*  
(DENIS AND SCHIFFERMÜLLER)  
(LEPIDOPTERA: GEOMETRIDAE) IN NORTH AMERICA**

Members of the genus *Lampropteryx* Stephens (1831. Stephens, J. F. *Illust. Br. Ent. (Haustellata)* 3: 233) are medium-sized larentiine moths and comprise about twelve species in the Palearctic and Indo-Australian regions. The monophyly of the genus has not been confirmed, but distinct characters from the male and female genitalia such as the long, digitate anellus lobe with a stout, bristle like hair and many thin, unmodified hairs, the aedeagus with two band-shaped cornuti, the bowl-shaped ostium, the long membranous ductus bursae, and the ovate corpus bursae, provide good diagnoses for this group. Sato (Sato, R. 1990. *Tinea*, 13(3): 19–25) and Xue and Zhu (Xue, D. & Zhu, H. 1999. *Fauna Sinica*, Volume 15, Science Press, Beijing) provided taxonomic notes on several species of *Lampropteryx*. They noted that members of the genus differ in the pectinations of male antennae and the presence of sexual tufts on the underside of the hindwing, whereas the genitalia in both sexes are often indistinguishable.

In the collection of the American Museum of Natural History, New York, I found eight specimens of a species with the habitus of *Lampropteryx* Stephens, collected from Alaska. The wing patterns and the genitalia are consistent with an Old World species, *Lampropteryx suffumata* (Denis and Schiffermüller). The Alaskan specimens agree with European ones in every detail, except the posterior end of the central fascia of the forewing is thicker, and both the normal and melanic dark form (“*piceata*”) are present (Figs. 1–2). Prout (Prout, L. B. 1938. *Macrolep. World.*, Vol 4. Suppl. p. 136) placed the smaller specimens from northern Scandinavia, Kamchatka, and Arctic Russia into the form *arctica* Schneider (= *defumata* Stichel). However, Alaskan specimens (wingspans, 24–29 mm) are no smaller than European individuals. It is therefore inappropriate to apply the name *arctica* to this material.

In northwestern North America *L. suffumata* is similar to *Eustroma semiatratum* (Hulst) in the wing patterns, but the mixed scales of the frons, the absence of sexual tufts on the underside of the male forewing, and the genitalia of both sexes separate this species from *E. semiatratum*. The male of *L. suffumata* has a thick, modified apical hair on the anellus lobe and two band-shaped cornuti on the tubular vesica. The female of *L. suffumata* is distinguished by a bowl-shaped ostium and long, membranous ductus bursae (Figs. 3–5).

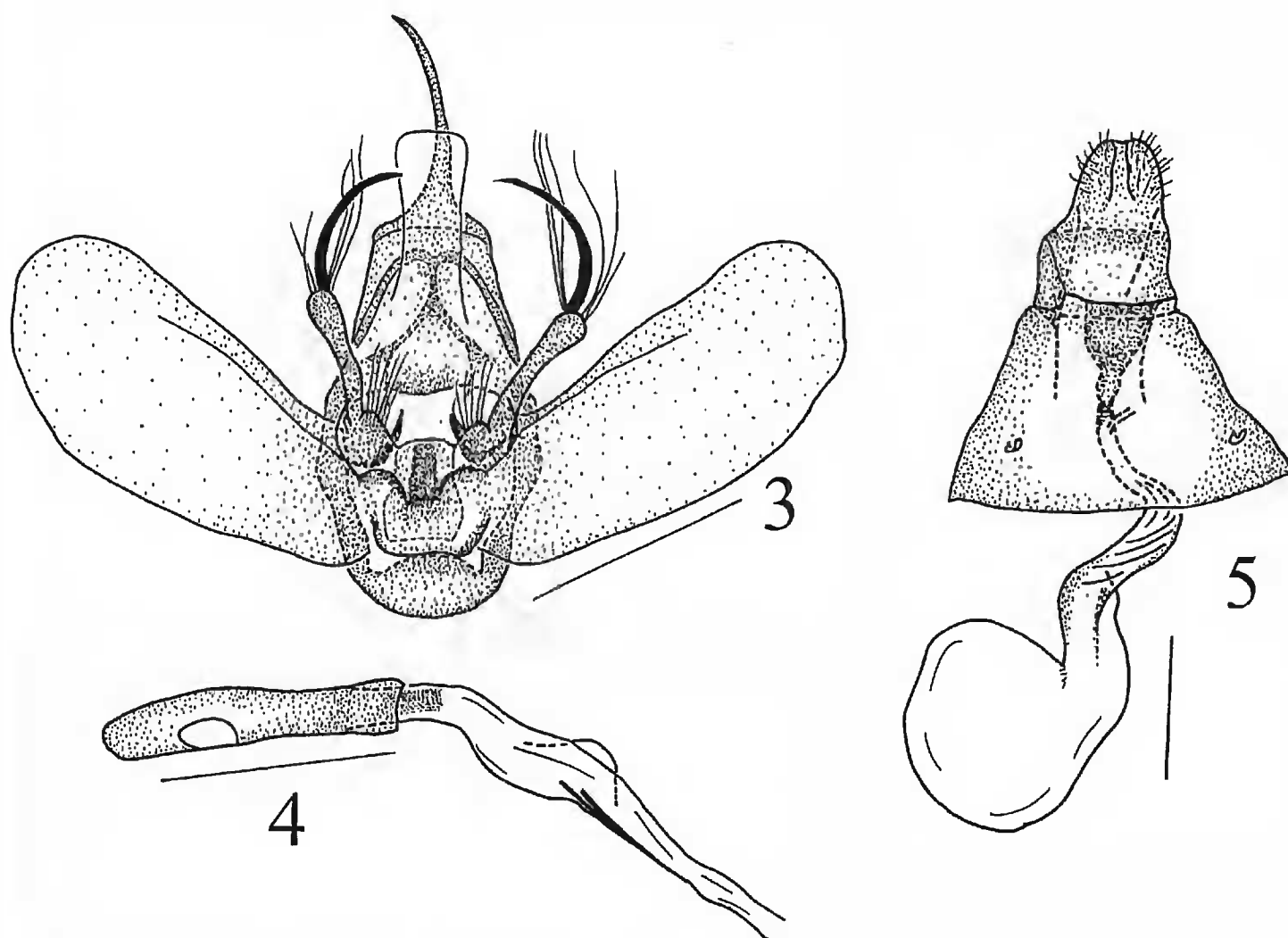
In Europe *L. suffumata* is single-brooded, flying in April and May and overwintering as a pupa. The species feeds on *Galium aparine* Aitch (Rubiaceae) (Metcalf, J. W. 1917. *Entomologist*, 50: 73–74). It should be noted that the specimens from Kamchatka and Alaska were collected from May to August. Its close relative, *L. otregiata* Metcalfe, can be separated by morphology and by ecology: double brooded, flying in May and June and again in August and early September, and having *Galium palustre* Bieb and *G. uliginosum* Linn as the host plant (Skinner, B. 1984. *Moths of the British Isles*, Viking, New York). Although



Figures 1-2. Adults of *Lampropteryx suffumata*. 1. male from Helsinki, Finland (Wingspan 24 mm); 2. male from Palmer, Alaska (wingspan 29 mm).

most members of *Lampropteryx* occur in East Asia and Himalaya, *L. suffumata* is widely distributed through most of Europe and extending east as far as Altai, Japan (Sato, R. & Kameda, M. 1997. Yagato, 148: 33-37) and Kamchatka (Sedykh, K. F. 1979. Entomol. Obozrenie, 58: 288-296). Surprisingly, this moth distribution overlaps with that of the host plant, *G. aparine*, a native plant in Alaska (Hulten, E. 1968. Flora of Alaska and neighboring territories, Stanford University Press, Stanford).

This discovery is a new continental record and extends the range of this species approximately 2900 km east into northwestern North America. The collection of



Figures 3-5. The genitalia of *Lampropteryx suffumata* from Alaska. Scale bar = 1 mm. 3. male genital capsule; 4. aedeagus with everted vesica; 5. female genitalia.

four males and four females over a four-year period and upwards of 840 km apart indicates a widely distributed population.

*Material Examined.*—ALASKA: *Palmer*, 2 males and 2 females, 24 May 1966, 1 Jun 1966, W. Phillips; *Seward Peninsula*, 25 mi. Kougarok Rd., 2 males and 1 female, 4 Jun 1970, D. G. Roseneau/ Nome R. Valley; *Fairbanks*, 1 female, 4 Jul 1966. W. Phillips; deposited: American Museum of Natural History, New York.

*Acknowledgment.*—I thank Fred Rindge and Michael Engel, American Museum of Natural History, for discussions and manuscript improvements. During the study, I was supported at the AMNH by a Kalbfleisch Postdoctoral Fellowship.

Sei-Woong Choi, *Department of Entomology, American Museum of Natural History, Central Park West at 79th Street, New York, New York 10024-5192, U.S.A.*

*Received 23 Aug 1999; Accepted 23 Dec 1999.*